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>>>KWIC option is not available in file(s): 77, 278

   3/9,K/1   **(Item 1 from file: 275)**
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02166513   SUPPLIER NUMBER: 20082931   (THIS IS THE FULL TEXT)
 Hot ACD products. (Automatic Call Distributor hardware and software)
 (includes related article on ACDs with drivers that run Spectrum's
 wallboards and display panels)(Buyers Guide)
Teleconnect, v15, n12, p64(8)
Dec, 1997
DOCUMENT TYPE: Buyers Guide   ISSN: 0740-9354   LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 3842   LINE COUNT: 00313

ABSTRACT: A buyers guide describes 28 software and hardware Automatic Call
Distributor (ACD) solutions for developing and improving call centers. The
products range from AltiGen Communications' AltiServ Computer Telephone
System to Voice System Research's AGENT@HOME Windows NT application for
telecommuting workers. Each product is briefly described and the
information includes the price as well as the vendor's phone number.

TEXT:
    ALTIGEN COMMUNICATIONS
    AltiGen's (Fremont, CA -- 510-252-9712) AltiServ Computer Telephone
System gives you auto attendant, voicemail and automatic call distributors;
computer telephony capabilities; and powerful mixed-media messaging and
integration with the Internet.
    AltiServ supports up to 32 ACD workgroups, with up to 64 members per
group. Queued calls are distributed on first available member or
round-robin basis. If a distributed call goes unanswered, it can be sent to
the next person in that group. Callers can transfer out to the operator or
to voicemail.
    While on hold, callers hear music or a sequence of recordings.
Whether you have three agents or 80, AltiGen's ACD will help you handle
incoming calls more efficiently and provide really helpful customer
service. Windows NT. AltiGen's Starter Kit list price is $3,995.
    AVT
    Applied Voice Technology's (Kirkland, WA -- 206-820-6000)
AgentXpressNT is a complete call center system that's NT-based. It has an
ACD, skills-based routing, comprehensive reporting, and,CTI goodies like
screen pops for agents and phone set emulation. AgentXpress allows for
scalable growth of agent stations, from as few as four up to 84 agents. The
system also offers a wide range of options to network up to 16 systems
enterprise-wide to support more than 1300 agent workstations. Pricing
starts at about $20,000, with per-station costs ranging from $1,800 to
$2,700, depending on the size of the system and the CT options selected.
    BLUE PUMPKIN
    Blue Pumpkin Software (Palo Alto, CA -- 415-813-9180, ext. 19)
released an enhanced version of PrimeTime software on Win95/NT for call
center demand forecasting and workforce scheduling.
    PrimeTime can be integrated with popular ACD systems to download call
volume and other statistical data for forecasting. Using historical call
pattern data, PrimeTime's forecasting system answers "what if" for call
volume and staffing changes.
    PrimeTime supports exporting employee data, schedules, history,
profiles and forecasts into text, spreadsheet or HTML formats. Pricing is
based on the number of agents being scheduled, and begins at $9,900 for up
to 500 agents.
    CINTECH
    Cintech's (Cincinnati, OH -- 800-833-3900) JAZZ2000 NEAX2000 IVS is a

hearty ACD for small- to mid-size call centers. It runs on a stand-alone PC attached to an NEC business switch. Its three levels support up to 80 active agents with a a feature set you'd expect from a bigger call center product.

Call routing, queuing and reporting are its strong points. Routing options include: longest idle, round robin, top down, skills-based, intelligent routing based on Caller ID or DID, and priority queuing. Priority can be set by group, line or routing command.

Other features include 14 management and performance reports. Silent Monitoring lets supervisors train new agents and check call quality. We gave JAZZ2000 a Teleconnect Editor's Choice this year, we liked it so much, and it's easy to install and learn. JAZZ2000's CLP ranges from $12,100 to $29,700, depending upon the version.

COMDIAL CORPORATION

For the small call center market, Comdial's (Charlottesville, VA -- 800-347-1432) DXP PBX uses the QuickQ ACD, developed by Innings Telecom (Markham, Ontario, Canada -- 905-470-7070). There are two models, one for 48 agents or less and one for up to 250 agents. To make the system more user-friendly, Comdial plans to release QuickQ Version 4.0 in Windows 95. Some small call centers have agents that do multiple jobs, so many already have Win95 PCs on their desks to handle other tasks.

DIGITAL TECHNIQUES

Digital Techniques' (Allen, TX -- 800-634-4976/972-727-1200) Qstar is a little stand-alone unit that plugs into your Norstar and provides both auto attendant and call queuing functions. The system emulates a set of 7324 station sets, so installation is a snap -- the unit can be configured from any phone. Callers can dial a department or extension, or sit in queue waiting to be served by the longest-idle or preferred-agent method. You can even plug in an optional reader-board to keep agents appraised of call center stats. An optional Qstat software package, running on a serially-linked PC, provides real-time and historic reporting. A basic Qstar is around $2,300. With statistical reporting, more like $3,500.

EDGEWATER TECHNOLOGY

Edgewater Technology's (Wakefield, MA -- 617-246-3343) WhiteCap CT suite uses Win95/NT platforms. It's easy to integrate WhiteCap into your existing phone system, adding IVR, Web and phone ACD, Internet Callback and Screen Pop capabilities.

WhiteCap's suite of products includes SoftPBX, with telephony functions like ACD, IVR and Power Preview Dialer. CallObject Management sends the context information with a call, wherever it is routed. Call center staff have instant access to caller contact data, like call statistics, order status info, customer profiles, and responses to IVR or Web prompts. Internet Call Back is new. And integrated email, fax and faxback, voice-mail and auto attendant let agents move from desktop to desktop without losing configuration information.

WhiteCap server software is $4,995; client software at $195. The Software Developer's Kit at $495.

ESI

Estech Systems, Inc. (Piano, TX -- 972-422-9700) has a built-in ACD in its IVX phone system, which eliminates peripherals and saves money. Just program a group of extensions as an ACD department, and IVX handles all of the call routing and hold functions. IVX routes calls directly to an ACD department through the auto attendant or lets live operators access the department using a DSS key. The LCD screen shows agents incoming Caller ID, how many calls are holding, and waiting time for the oldest call.

The IVX features Dial-On-Hold, comes with three preprogrammed Messages-on-Hold, and it allows up to five additional customized messages. A programmed ACD Wrap Key lets agents temporarily take themselves out of the ACD queue to finish paperwork.

EXECUTONE

Executone's (Milford, CT -- 203-876-7600) Infostar predictive dialer 4.6. has gone from proprietary architecture to open architecture. It's now Win95 for agents and Win NT for supervisors. Infostar supports any scripting, scoring, or financial management package written to the Microsoft CTI standard. Now call centers don't need package developers to

write special interfaces for the dialer.

Executone also increased the dialer's data-handling capacity to 300,000 records, which expands the number of campaigns a call center can handle at any given time. Agents can quickly pull up more customer data. Release 4.6 incorporates Campaign Quota and Linking, which lets supervisors track where they are in a campaign. The software moves agents to new campaigns gradually and automatically as old campaigns approach their targets.

INTECOM

Intecom's (Dallas, TX -- 800-468-3945) CallWise ACD product family is built around the Intecom E switch architecture, and offers a sustained call processing rate of 80,000 calls per hour. Buy the ACD modules you need: their Basic ACD module offers custom inbound routing and agent management features; their Deluxe module offers dynamic, self-adjusting queue control and additional reports/displays. They have a fully agent-interactive Monitor module for supervisors, a front-end IVR system for automated transaction handoff and queue-feedback, a reporting system, a transaction system, and a multi-location call center integration suite.

INTERACTIVE NORTHWEST

Interactive Northwest, Inc. (Portland, OR -- 503-598-0900) has developed the Enhanced Services Center for Lucent Technologies' Merlin Legend. It gives small and midsize call centers the same capabilities as the big guys have: advanced call handling, visual monitoring, comprehensive reporting, and management capabilities. ESC gives callers the options to wait in queue, forward to a specific group, leave a voicemail or drop out. ESC can tell customers the length of the expected wait, their place in queue, and keep them entertained or harassed by multiple announcements on hold.

Have up to four supervisor terminals, 25 active agents and distribute calls to as many as four queue "lines" or splits. Intraflow lets callers sit in multiple queues simultaneously to make sure they get picked up by the very next agent.

INTERALIA

Interalia Communications (Eden Prairie, MN -- 612-942-6088) has a call processing digital announcer, the XMU, that's easy to install and use. You can use it in simple ACD applications, where it handles call routing and DTMF call processing and offers handy features like audiotext. XMU can play a list of messages for people in a cue, so they don't hear the same thing over and over. It can play different promotional messages for each ACD group over a generic MOH. XMU can also help you out with disaster recovery, redirecting calls to another location via menu or auto transfer.

LUCENT

Lucent Technologies' (Basking Ridge, NJ -- 888-4-LUCENT) DEFINITY ECS platform supports the CentreVu family of products, including the Call Management System (CMS), Supervisor and Explorer, as well as the Internet Call Center. CMS (CentreVu Lite for under 100 agents) lets you monitor and administer the DEFINITY ECS Call Center. CentreVu Lite can work for an under-25 agent location up to the large multi-location business with 5,200 active agents and up to 128 supervisors. It provides real time and historical data to analyze trends in the call center. Prices for CentreVu Lite start at $13,500 and grow incrementally based on agent number.

CentreVu Supervisor lets you access CMS' reporting and admin capabilities from a Win PC. You don't need a dedicated terminal.

MELITA

Magellan is a user-customized app that guides call center agents through each customer interaction. The soft ware supports transparent, real-time access to enterprise-wide customer and product info, presenting it in a unified way on the desktop. Magellan combines real-time data from multiple, enterprise-wide sources (host sources, relational databases, other Windows apps) and presents it within the Magellan interface.

Magellan 3.0 now supports simultaneous multiple host sessions on multiple hosts. It features extended open database connectivity, and makes building applications (how you want your information to appear on your agents' screens) faster and easier.

MITEL

Mitel's (Ontario, Canada -- 613-592-2122) ACD 2000 can provide comprehensive ACD routing for departmental call centers using Mitel's SX-2000 series of PBXs. ACD 2000 routes incoming calls along customized paths (up to 256 paths per PBX): Spanish speaking calls can be routed to Spanish speaking agents; sales inquiries can be placed at the front of the queue. ACD 2000 can support up to 350 agents in a single site. ACD 2000 costs between $300-600 per agent. Mitel's SUPERSET 400 Series Telephones are specifically designed to work with PBX-based automatic call distribution. The SUPERSET has programmable keys users can set based on their specific needs. ACD 2000 also supports agent mobility by allowing them to log onto any ACD set within the call center.

The Networked ACD option extends the ACD 2000 across private networks of two or more SX-2000 PBXs. Incoming calls can be simultaneously queued for local and/or remote agent groups. This means better coverage across time zones, more efficient handling of peak hour(s) traffic and back-up coverage, among other things. Networked ACD is available on a per switch basis.

MOSAIX

Mosaix, Inc.'s (Redmond, WA -- 888-4-MOSAIX) ViewStar 5.0 lets you integrate call handling generated in the customer service center with document-intensive back-office processes (underwriting, billing, accounts payable, and other fulfillment). Improve efficiency and personalize your services to customers. It's cheaper to retain customers than try to find new ones, you know.

ViewStar 5.0 provides full Internet server support for transaction processing over the Web. Remote users can initiate, track and execute tasks as well as view scanned documents via standard Web browser.

The ViewStar 5.0 software includes Process Architect, a GUI process modeling tool, and RADD, with predefined templates to help you get your apps in gear, quickly. ViewStar 5.0 pricing starts at $125,000 for a 25-user system.

MULTICALL

MultiCall, Inc.'s (Santa Clara, CA -- 408-748-1245) integrated CT software suite, CallFlow, helps you create informal or small-to-medium call centers of 5- to 200-agents. Use CallFlow to integrate your phone systems with your computer, so you can access client databases while working with customers on the phone. It's great for agents who do more than just work a call desk. CallSuite includes: CallFlow Server (voice processing, intelligent call routing, abandoned call call-backs, and outbound call support), CallFlow Designer (GUI app gen for call flow scenarios), CallFlow Agent (GUI desktop telephony client for viewing and processing caller information) and C all Flow IVR (prescreens in coming calls so they reach the right agent).

If you want a quick setup, choose from several preconfigured apps. MultiCall's CallFlow Server pricing starts at $1,000 per seat for a five-user license.

NICE SYSTEMS

Nice Systems (New York, NY -- 800-NICE-611), who recently bought Dees Communications (Redmond, WA -- 800-654-5604), gives big features to small call centers using Centrex, with Mediator Direct ACD for Windows. Real-time ACD information includes Queue Status Summary, Agent Status Summary, Abandoned Call Rate, Average Hold and Average Talk Times. A new feature lets you store the historical reports portion of the program on a separate PC, to make the records accessible to more than one machine. Other features include custom voice announcements for calls in the queue, supports multiple queues, and handles up to 20 agents. $9,995.

NITSUKO

Nitsuko America (Shelton, CT--203-926-5498) offers an ACD on its 124i/384i phone system which uniformly distributes incoming calls among the agents in a programmed ACD group by judging the work load of each agent. Calls can be auto-routed to the proper ACD group, or transferred by a coworker, or the NVM-Series Voice Mail. The 384i system allows up to eight ACD Groups and 144 agents assigned to any group. The 124i system handles up to eight ACD Groups and 36 agents.

New for the 384i phone system is inDepth MIS and inDepth+ MIS

software. They let a call center manager set performance goals and measure achievement against the targets. They are both Win-based, offering historical report options. The inDepth+ MIS additionally offers multiple wallboard support, multiple real-time screens, sub-supervisor positions and database and text export. The inDepth software runs $3,500; the inDepth+ runs $6,500.

NORTEL

Symposium Call Center Server from Nortel (Research Triangle Park, NC--800-4-NORTEL) is for call centers and help desks of all sizes. It features skillset routing and total call tracking, so you know where your calls are going and the best way to handle them. It's Internet enabled and networkable for off-site call centers, on a Windows NT client/server platform. Nothing to be afraid of, here. And it uses open database standards, so you can import and export data with ease, quickly accessing client data. With its CTI, Symposium can pop client information automatically with incoming calls, too.

PERIMETER TECHNOLOGY

Perimeter Technology's (Manchester, NH--603-645-1616) VU-ACD/100 Centrex-based ACD Management Information System interprets the call event data sent over the DMS-100 link to provide managers with critical info to help manage available agent resources. Information includes Real-Time Monitoring, Historical reporting, and Configuration Control (Load Management). It supports up to 4,000 active agents, 20 DMS links, and 96 remote supervisor terminals. A new feature automatically moves agents to their daily scheduled ACD group, no matter what group they log on to.

With Version 38 set for release early next year, it will offer the option of a GUI Win-based Remote Terminal for the W-ACD/100. It's also Year 2000-compliant. Another new option is the Stat-VU Call Center Statistics Window, which lets call center managers send ACD status information and messages (picture-in-picture format on agents' PCs), directly to their agents on a continuous basis, without breaking off the agent's work.

SIEMENS BUSINESS COMMUNICATION SYSTEMS

Siemens (Santa Clara, CA--800-765-6123) offers virtual routing on a separate server, with its Hicom 300E PBX/ACD. ResumeRouting was recently rewritten for CSTA CTI standards on Win NT 4.0.

ResumeRouting creates a profile of each incoming caller using ANI/DNIS, responses to IVR, customer database, or a pre-defined profile stored in a server app. The caller profile is compared to a detailed database of agent profiles to best match the caller.

Among many new benefits in release 2 is skills-based traffic simulation provided with the ResumeRouting Simulator module. Simulate various call volumes, caller behavior profiles and agent assignment scenarios.

ResumeRouting begins at $40,000 and includes routing for up to 35 agents, Siemens CallBridge CSTA/NT client/server CTI link, and five copies of the ResumeRouting Desktop. The Simulator begins at $8,000 for up to 150 agents; or $12,000 for over 150 agents.

SWITCHVIEW

Switchview (Toronto, Canada--905-602-8626) has a new product line called Right-On-Queue. (ROQ) is a scalable call center system for small or departmental call centers. Work with the minimum information necessary to properly staff a call center and measure performance. Or also use realtime monitoring and configuration management: add intelligent and interactive recorded announcements to give callers an estimate of the wait time and options on whether to wait in the queue.

Pricing for ROQ Reporter starts at $4,550, and is a nice package for call centers of around 20 agents. Add agents by increasing the size of the software license. Add sophistication by building on Reporter, adding the ROQ Control Center, Power RAN, and Agent Options.

TADIRAN

Tadiran Coral's ACD is an integrated ACD with distributed architecture which handles call processing and data generation separately, so that even at peak periods, the ACD's performance doesn't suffer. The ACD can do things like forward all calls to one group to another group, let agents send messages to others on display telephones without disrupting

conversation, let agents log into multiple groups (prioritized), and auto answer a call without having to press a button or lift a handset. For logging purposes, the Tadiran ACD lets you attach wrap-up codes to a call for unique identification, but you'll need their ACD MIS system for this.

TCS MANAGEMENT GROUP

TCS (Brentwood, TN--615-221-6800) software for ACDs automates forecasting call volume based on current and historical events, for efficient staffing and bunking. Create optimal schedules, track staff performance, and manage multi-site operations from a single location. An entry-level version that accommodates small- to medium-sized call centers is available as well as a sophisticated NetForce multi-site version, for centralized management capabilities and consolidated scheduling and tracking.

The system's modules include Agent Productivity, Real-Time Adherence, Remote Info Exchange and Skill Based Routing Simulator.

The most recent release (4.3) of the TCS system has more than 60 new features and enhancements.

TELECORP PRODUCTS

Telecorp Products, Inc. (Walled Lake, MI-888-223-6299/248-960-1000) makes a variety of ACD add-on products. Their ACD Performance Software works on Nortel, Rolm, and Lucent ACDs. It provides reports, graphs, charts, and 3D models of realtime and historical ACD data, great for scheduling, budgets, etc. Starts at $7,000. Agent Window is a color-coded management terminal screen **monitoring** system. It shows agent status in colors, letting supervisors see who's slacking off. $5,500. Agent Window Client gives you a colorcoded, drag and drop view of your whole call center, letting you compare the performance of selected agents or groups, $2,000. Supermaxx CTi gives Meridian Max users a real-time view of agent-status and **call** center **activity** . $6,000. Finally, Net Q, a "heads down" virtual readerboard, pops up real-time queue data on agent PC screens, via LAN. $2,000 and up.

VODAVI

Vodavi Communication Systems' (Scottsdale, AZ -- 602-948-1971) infinite DVXPlus System series features cutting-edge PC/ACD software and reporting capabilities designed for growing call centers. The infinite ACD system can help you to offer better customer service, improve agent productivity, increase revenues and reduce costs. It supports up to 16 goups/16 agents, and includes features such as longest idle, to balance work load. Collect and store raw data about agent, group and system activities for performance tracking. Generate management reports using real-time info and **realtime   statistics** . Schedule or print reports ad hoc.

The infinite PC/ACD reporting package is priced at $6,100, and includes a personal computer, ACD software, technical manual, and admin guide.

VSR

Voice System Research's (Rocklin, CA -- 916-624-6300) new call center management product AGENT@HOME takes advantage of the trend toward telecommuting workers. AGENT@HOME offers robust and dynamic call center control beyond the traditional workplace, allowing agents to receive calls anywhere, anytime. Based on flexible rules- and skills-based profiles, AGENT@HOME routes calls according to call identification, agent skills, time of day and day of week, destination, traffic load and available ports.

AGENT@HOME is a Windows NT-based application, available as an individual software module or within the VISUAL OFFICE suite. Operating features: 32-bit application, Win NT Server, Win95/Win NT Workstation Desktop and LAN independence. Additional VISUAL OFFICE suite modules include Unified Messaging, Call Center, Auto Attendant, Recording Studio, Enhanced Reporting, Call Accounting and IVR.

RELATED ARTICLE: READ ALL ABOUT IT

Spectrum's (Houston, TX -- 713-944-6200) wallboards and display panels are industry standards Many ACDs have drivers to run them including Lucent, Ericsson, IBM, Inter-Tel, NEC, Nortel, Rockwell and Siemens-Rolm. The wallboards are microprocessor controlled, capable of accepting a stream of statistical data from the switch, watching for critical changes (e.g.,

average time to answer exceeds pre-set threshold) and altering the display
(e.g., changing color, flashing, etc.) to call attention to the current
value. A two-line by 33-character display starts at $4,000. Bigger and
smaller display are available.
        If your ACD doesn't support Spectrum, their ULTRA*Link software can
run on one of your management terminals, scrape data off the screen
display, and drive the wallboard. ULTRA*Link can also drive "virtual
readerboard" pop-up display on agent workstation screens across the LAN
(extra-cost option). $5,700 installed and trained on customer-supplied
(non-dedicated) PC.
        COPYRIGHT 1997 Telecon Library Inc.

 SPECIAL FEATURES: photograph; illustration
 DESCRIPTORS: Telephone Management Device; Telephone Management Software;
  Hardware Buyers' Guide; Software Buyers' Guide
 PRODUCT/INDUSTRY NAMES: 7372672 (Telephone Management Software); 3661170
  (Telephone Management Systems)
 SIC CODES: 7372 Prepackaged software; 3661 Telephone and telegraph
  apparatus
 FILE SEGMENT: CD File 275

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 3/9,K/2   (Item 2 from file: 275)
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01703506   SUPPLIER NUMBER: 16253806   (THIS IS THE FULL TEXT)
 **Database performance: not just OLTP anymore. (includes a related article on
 decision support and sophisticated analysis features in object-oriented
 DBMSs)**
Francett, Barbara
Software Magazine, v14, n9, p61(6)
Sept, 1994
ISSN: 0897-8085   LANGUAGE: ENGLISH   RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2961   LINE COUNT: 00245

ABSTRACT: Online transaction processing (OLTP) speed is still important in
measuring DBMS performance, but many other aspects become important as
corporate computing expands to encompass more diverse processing systems
and applications. Decision-support benchmarks are an increasingly important
determinant of overall DBMS performance for many organizations, and the
arrival of client/server, distributed databases, and symmetric
multiprocessing makes DBMS performance measurement more complex. The
Transaction Processing Council (TCP) has developed several standardized
benchmarks, among which are TCP-A, TCP-B, and TCP-C; the TPC's General

Implementation Guidelines now prohibit running anything that is specially
optimized for benchmarking or lacking in real-world applicability. Also
described are the TCP-D decision-support benchmark, TCP-E enterprise-wide
OLTP benchmark, and TPC Client/Server OLTP benchmark; third-party DBMS
performance-measurement products are examined.

TEXT:
        Users agree: When it comes to database management system (DBMS)
performance, online transaction processing (OLTP) speed is still the thing.
But, it is no longer the only thing. As corporate computing expands to
encompass more diverse processing systems and applications, users' views on
what DBMS performance comprises -- and how to evaluate it -- have also
expanded.
        CHART OMITTED]
        For example, most organizations look to OLTP benchmarks as the first
step in evaluating DBMS performance. But as decision support applications
start to play a more important role in businesses, users are also starting
to look for decision support benchmarks to help gauge DBMS performance.
        "OLTP is still the key component for getting work done," said Walter
Baker, performance engineering director at Informix Software Inc., Menlo
Park, Calif. "But, different configurations have begun to evolve, including
client/server, distributed databases, workstations connected to a network
or symmetric multiprocessing clusters."
        With these different configurations, performance issues are evolving.
"The major difference is volume," said Predrag Dizdarevic, senior vice
president of research and development at Computer Associates (CA)
International Inc., Islandia, N.Y. "Regardless of whether they're doing
transaction processing or decision support, volumes of databases have
increased. The volumes of processes have also increased, both in the number
of users and in the complexity of the applications using the data."
        The result of such complexity is a far cry from the relative
simplicity of mainframe-based DBMSs. "In the mainframe environment,
everything is contained in the mainframe. In distributed systems, the path
the data has to travel is more complex," said Katherine Clark, president
and chief executive officer of Landmark Systems Corp., Vienna, Va.
        Kavouras Inc., Minneapolis, works with very large data sets,
according to Michael Berge, software systems developer. The firm provides
weather information to approximately 3,000 customers, including television
and radio stations, flight stations and the Federal Aviation Administration
(FAA).
        The organization runs the Empress relational DBMS (RDBMS) from
Empress Software Inc., located in Greenbelt, Md., on an Aviion system from
Data General Corp., Westborough, Mass. "We wanted the quickest DBMS we
could get for overall speed of access and retrieval," said Berge.
        Kavouras' customers can receive weather information via satellite or
telephone, he said. "The less time customers spend on the phone retrieving
data, the less they're charged for connect time," he added.
        Information is also collected from various radar systems, combined
into very large files, and transmitted to customers via satellite. "We
needed higher-speed uplink for the delivery system" Berge explained.
        Speed, in terms of the number of records that could be stored and
retrieved in a certain time-frame, was the firm's primary criterion when it
chose Empress, said Berge. "Empress offers different levels of access," he
noted. These include table-by-table, record-by-record and kernel-level
access, which he compares to the performance of a minivan, a Mustang and a
Corvette, respectively.
        As part of the DBMS selection process, Kavouras examined performance
benchmarks. This is typical of most firms that choose an RDBMS for specific
application needs.
        "The optimal thing would be for each client to define its own mix of
applications and benchmark available products on the market," said CA's
Dizdarevic, "but this happens only with very large projects."
        And even if an organization goes to the time and expense of doing its
own benchmarking, the results would still not necessarily translate to a
production environment, noted Informix's Baker. "A benchmark is a sample,

and if the sample isn't representative of the real environment, there's no guarantee of success."

As a result, many companies now turn to standardized benchmarks to compare performance among commercial DBMSs. The Transaction Processing Performance Council (TPC), San Jose, Calif., was formed in 1988 by eight hardware and software vendors to provide such standardized benchmarks. Today, the TPC numbers 45 member firms worldwide, including all the major computer hardware and DBMS vendors.

Before the formation of the TPC, the most commonly used benchmarks were those known as Debit-Credit and TP1. But, because they lacked complete specifications, they really did not give users any way to compare competing DBMSs.

[CHART OMITTED]

The council's first efforts resulted in the TPC-A and TPC-B benchmarks. TPC-A is a simple OLTP benchmark that uses a single transaction to measure how many transactions per second a system can perform from multiple terminals, although the number of terminals is not specified. TPC-B, described as a "database stress test," tests disk I/O, system and application execution time, and transaction integrity.

"It [TPC-A and TPC-B] was a good first effort, but we needed to move on to real-world complexity," explained Kim Shanley, the TPC's chief operating officer. TPC-C, the "next-generation OLTP benchmark," was approved in July 1992. "In TPC-C, five different transactions are processed simultaneously. The database structure is more complex, with more tables, and what has to be reported back to the user is more complex," Shanley said. The model for TPC-C is a warehouse parts environment.

Informix was the first major general-purpose RDBMS to publish TPC-C benchmarks, followed by Sybase from Sybase Inc., Emeryville, Calif. Oracle from Oracle Corp., Redwood Shores, Calif., and OpenIngres from The Ask Group, Santa Clara, Calif., have yet to publish any TPC-C results.

Prior to the availability of TPC-C, the reliability of TPC benchmarks was questioned by Oracle's usage of "discrete transactions" in testing. These are essentially "stripped-down" transactions that can be processed more quickly, thereby raising benchmark results. Although the use of discrete transactions in benchmarking broke no TPC rules at that time, these discrete transactions have since been deemed to have no relationship to realworld transactions.

As a result, the TPC's General Implementation Guidelines now specifically prohibit running anything that is specially optimized for benchmarking, or "without corresponding real-world applicability." Or, to put it into common parlance, no more "benchmark specials."

The TPC-D decision support benchmark will be available in Q1/95. "There's been tremendous interest in this benchmark," said Shanley. "Companies are rethinking computer system functions from automating manual activity to managing the business itself."

The TPC-E enterprise-wide OLTP benchmark will follow in the second quarter. "TPC-E will be approximately four times as heavy a benchmark as TPC- C, for very large OLTP systems. This is a class of system that hasn't been benchmaked yet," Shanley said, referring to mainframes like those from IBM, NEC and Amdahl Corp., which offer only proprietary benchmarks.

And, in the last quarter of next year, the TPC Client/Server OLTP benchmark will be available. This benchmark should provide "a more realistic model of today's client/server environment," Shanley said.

Both DBMS vendors and thirdparty suppliers are working on enhancing existing tools or developing new tools to address users' more diverse performance concerns.

For example, Sybase offers SQL Monitor, available since last fall, for monitoring its SQL Server RDBMS. SQL Monitor isolates problems and fine-tunes the servers for optimal performance. SQL Monitor has two components, SQL Monitor Server and SQL Monitor Client. "SQL Monitor [Server] accesses information about what's going on in the server, including disk I/O, network I/O, cache/hit ratio and so on," said Rob Cook, senior product marketing manager for SQL Server.

This information is extracted from the DBMS's shared memory section -- rather than querying the server directly, as general-purpose monitoring

tools do -- to avoid incurring system I/O, Cook said. SQL Monitor Client connects to the server component and displays performance data through a graphical user interface (GUI). SQL Monitor, Release 10, works with SQL Server Versions 4.9.1 and above, as well as SQL Server 10.

A forthcoming announcement this fall, Cook added, will address client/server DBMS performance issues like centralized management and control, and environments comprising disparate databases, networks, hardware and software.

Meanwhile, IBM's recent announcements address users' increasing interest in client/server systems, as the company unveiled Version 2 of DB2/2 for OS/2 platforms, and DB2/6000 for the RS/6000. Among the versions' enhancements is a new SQL optimizer that improves response time to SQL queries.

In May IBM announced DB2 Parallel Edition for AIX, a parallel relational database that purports to improve database performance by breaking down SQL queries into many parts, which then run on multiple nodes in parallel. DB2 Parallel Edition for AIX is now in beta test, with general availability to be announced later this year.

Informix's hardware partners are in the process of developing "profile optimizers," said the firm's Baker. These developers' tools will "take a representative workload, benchmark it, and get statistics to reorganize the executable engine based on that workload," he said.

CA's Dizdarevic also reports work in progress, specifically on improvements to existing performance tools for OpenIngres, recently added to CA's DBMS stable with the acquisition of The Ask Group.

Third-party tool suppliers are taking advantage of performance concerns as well. Houston-based BMC Software Inc., traditionally a provider of mainframe-based performance tools, is now developing performance tools for client/server environments. "Mainframe tools and techniques don't apply in the client/server environment," said Dave Fox, product author. Users want intelligent products that bring the performance process under a central place of control, he added.

BMC's Activity Manager tool suite for MVS includes Activity Monitor, for monitoring and manipulating DB2 performance; Opertune, for adjusting DB2 performance parameters; and Extended Buffer Manager (XBM), for defining sets of data and essentially bypassing all read I/Os associated with those data sets.

The Federal Deposit Insurance Corp. (FDIC), Arlington, Va., uses the Activity Manager suite for its DB2 production systems, said database administrator Rodney Buxton. End users include IBM 3270 users doing transaction processing applications, such as personnel requests and legal tracking, and PC users who access DB2 on an Amdahl mainframe via a gateway from Sybase's Micro Decisionware Division, Boulder, Colo., for client/server decision support applications.

The two groups' performance criteria differ, Buxton said. "For the 3270 users, the most important thing is subsecond response time. For the client/server users, response time is not so much of an issue. The issue is to keep users happy." This means keeping the time spent in DB2 to a minimum, he said. "Beyond that, it's a factor of bandwidth and how big their PCs are."

To that end, Buxton **uses   Activity   Monitor** and Opertune to set thresholds for how much data users can get from the databases. "Activity **Monitor** is like the center of a hub. It tells Opertune to do something, like set up a cache in XBM. Caching particular data sets that you always want buffered makes I/O faster," he said.

One application that uses caching -- utilized by three members of the voice network services group for monitoring all phone calls in and out of the organization -- has one table with 24 million rows. Caching has also led to significant performance improvements in processing some batch jobs, Buxton added.

In January BMC Software acquired Patrol Software Inc. The Patrol product line performs functions in Unix-based workstation environments similar to what Activity Manager does in mainframe environments. Patrol products use "smart agent" technology to alert users to problems or to take action directly. BMC plans to merge the Unix and MVS environments under the

Patrol console by 1995.

Another DB2 user incorporating a Unix platform is Milwaukee-based Mortgage Guaranty Insurance Corp. (MGIC). Over the last year, in addition to its regular mainframe-based OLTP, the firm has implemented a data warehouse and is in the process of expanding that to some client/server applications using the Oracle RDBMS and Unix, said Kathy Perushek, lead database analyst.

"For online transaction processing, we support response time of two seconds or less [for mainframe transactions]," she said. She estimates that MGIC processes 400,000 to 500,000 transactions per week, excluding batch processes. "We have a few heavy-duty applications that don't meet that [response time] requirement, but they are exceptions," she said. Online transactions include loan information, policy/loan under-writing, coverages, and claims registration and tracking.

MGIC is currently rewriting functions handled overnight in batch to run in the background of its OLTP work. Such concurrency would give MGIC more flexibility, Perushek said. The firm would no longer have to wait until night to handle big electronic file transfers and processing; conversely, any problems that cropped up during nighttime processing could be handled the next day rather than waiting for the following night.

MGIC's DB2 database runs on the company's Amdahl 5990/700 mainframe, and uses Landmark's The Monitor (Tmon) for DB2 performance monitoring tool. "Tmon gives us a wealth of information," Perushek said. "We can define exceptions and send TSO messages. If any critical thresholds are reached, a person is immediately reached without having to sit watching the monitor all day."

Landmark is working closely with Sybase to develop a Tmon version for that RDBMS, said Landmark's Clark. Tmon versions for DB2/6000 and Oracle will follow, she added.

"Sybase has a nice API [application programming interface] that is good for snapshots of DBMS activity," said Jason Levine, Landmark's manager of software development. "We can get a picture of server utilization, but not at the individual SQL query level."

Tmon for Sybase will also monitor the Sybase error log for exceptions and define alarms. "We can look at performance data and the error log and look for correlations," Levine said. The tool is designed to show what processes are eating up exceptional amounts of resources, as well as what individual users are running and what resources they are using.

The tool will help users spot trends and areas of runaway database growth, Levine added.

Bradmark Technologies Inc., Houston, is already providing a client/server performance monitor for Sybase, as well as for Oracle and Microsoft SQL Server databases. DBGeneral's SQLWatch Option collects server **statistics** in **realtime** . The products work with Microsoft or Sybase SQL Server or Oracel Version 6 or 7. Clients are 386 PCs and above running Windows 3.0 or higher.

Other third-party vendors, taking advantage of the move to new architectures, are developing the needed client/server performance tools. "Performance management on the mainframe was mature; products had achieved levels of integration," said Landmark's Clark. "Now we must provide the same level of integration in the client/server world." Many suppliers are trying to do just that.

OODBMSs EYE DECISION SUPPORT

Better performance for sophisticated analyses

With object-oriented database management systems (OODBMSs), online transaction processing (OLTP) performance is not an issue because OLTP is not an issue. That is left to relational DBMSs (RDBMSs), which are much better suited to it. Whereas the relational model of transaction processing is based on many users processing small bits of data, object-oriented DBMSs are geared to fewer users and more complex problems.

"Our metric is based on how quickly users can grab onto data. We do long-duration transactions and do operations on them quickly," said Patrick O'Brien, director of product management for Object Design Inc. (ODI), Burlington, Mass., maker of the ObjectStore OODBMS. Along with IBM, the vendor is developing a performance monitoring tool for ObjectStore that

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02382627   SUPPLIER NUMBER: 60081386   (THIS IS THE FULL TEXT)
 ACCOUNTING FOR RESPONSIBILITY AND PLEASURE. (Software Review) (Evaluation)
JONES, TIMOTHY
Teleconnect, 18, 3, 30
March, 2000
DOCUMENT TYPE: Evaluation   ISSN: 0740-9354   LANGUAGE: English
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ABSTRACT: Call tracking and accounting software and equipment helps
control telephone abuse. The software is essentially a database that tracks
PBX or key system data through a call detail record (CDR) port or a station
message detail record (SMDR). the information includes the time and length
of phone calls, the number called, extension dialed from, and tracks both
internal and external calls. Reports will list the calls according to
importance, and many applications offer customizable reports. The extensive
list of products reviewed include Amtel's Amtel Smarty, Angeles Group's
Call-Master, Cintech's Tele-Series 6.0, communication Sciences'
CallAnalyzer for the Web, and Connections' WinBill.

TEXT:
     Setting Your Own Rules and Rates
     Accountability. It's a concept that we're all familiar with. One
usually does not remove one's own trousers in the center of town because of
the consequences. Being held accountable for such behavior would generally
mean a fine or jail time. Any time you make a phone call on the public
switched telephone network or a wireless network there also is
accountability. Literally, there is an account of the call; evidence of
telco switches being used to place a call; from where to whom; its duration
and the (potential) cost. This month we examine call tracking and
accounting not at the telco level, but on a micro level, through software
that lets you establish your own parameters of how call data is processed
from your switch, be it PBX, iPBX, or key system. Though you can have a
service bureau take nearly all these matters out of your hand (except the
actual reading of reports), this month we focus on the
customer-premises-based software packages.
     WHY DO I WANT TO DO THIS?
     Well, most certainly you want to control telephone abuse. You know
him, that gabby geezer in cube #4 with a slew of close friends in New South
Wales. If it's your dime, he's spending quite a few of them. Telephone
misuse is another, albeit more innocuous, waste of your dimes. If you have
different lines allocated to different carriers on a key system, of course
you want users to select the most appropriate line for any given call
(should you have special rates with a carrier to calls terminating at a
specific location). Another reason for a call accounting system is to have
someone else pay for calls on your system. If you're a law firm, you'll
have the reports to directly bill your clients. If you share a switch with
another person/company, you might want to add a surcharge for the
privilege. It's your gear, after all. Then there's one of our favorites:
"You never called me." Oh, yes I did. Would you like to know exactly when I
called your assistant and your voicemail, and how long those calls were?"
Any questions and you can go to the reports.
     HOW'S THIS DONE?
     It's all rather simple. Call accounting is essentially a database
application that captures (typically) ASCII information from the
aforementioned PBX or key system via an SMDR (station message detail
record) or a CDR (call detail record) port. Sometimes the call accounting

programs process information captured instead by a buffer box. These solid-state devices can capture information and then be polled at intervals so as not to consume PC hard drive space with a flood of data. Your phone system's call details provide information on incoming and outgoing calls made through the system (time, length, number called, extension dialed from, internal/external call, etc.). The call accounting package takes this info and creates reports according to importance, such as "top 100 most expensive calls: who made them?" Many reports are standard to the software. Many applications offer customizable reports.

DO I WANT A GUI? HOW DO I CHOOSE MY SOFTWARE?

With memory so inexpensive and hard drives massive compared to their ancestors, it has become almost an assumption of most users (not programmers) that software equates to GUI. Often software designed to give users flexibility has cast aside C or C++ and ushered in tools such as variations on Visual Basic, making the customization of software a more drag-and-drop experience. This is fine until a bug raises its ugly little head in the software, or some unanticipated client need arises, which cannot be solved by the user and his GUI. Then the user is in far, far deeper than if he'd simply bought a package with more built-in options, instead of trying to roll his own, and getting mired in GUI. That said, a really well-designed GUI, and we have seen a few, is a simple pleasure that actually saves time and avoids confusion.

TWO SCHOOLS

There are, in this debate, two schools of philosophy. The first prefers the familiar, a well-programmed, perhaps "function-limited" yet intuitive program; it sees the GUI program as a potential monster. The second likes the multitude of options such as the multiple style record producing capacity and the simplicity of pointing and clicking.

WHEN ENO SPEAKS

The famous English musician, producer, and technology philosopher Brian Eno writes of this dilemma: "The trouble begins with a design philosophy that equates `more options' with `greater freedom.' Designers struggle endlessly with a problem that is almost nonexistent for users: `How do we pack the maximum number of options into the minimum space and' price? Software options proliferate extremely easily, too easily in fact, because too many options create tools that can't ever be used intuitively."

No matter which school you subscribe to, knowing what kind of information you need from your phone system and how you best want to access it are what you should keep in mind while shopping for your next call accounting package. The following pages contain descriptions of call accounting packages in all sizes and price ranges; software that runs on different platforms, suiting the needs of your diverse demands. Allow yourself the power of being intelligently accountable for all your calls.

AMTEL

If there's one thing to say about Amtel's (Fort, Lauderdale, FL -- 954-491-1400, www.amtel.com) Smarty call accounting package, it's that it has stood the test of time. It's a wall-mountable standalone unit with a 24-button keypad and a two-line-by-40-character LCD display. What's cool is that little system can deal with an unlimited number of extensions and can store somewhere over 40,000 calls in its flash memory. Smarty starts at $1,925.

THE ANGELES GROUP (A DIVISION OF VERAMARK)

The Angeles Group's (Westlake, CA -- 818-707-3900, www.veramark. com) Call-Master lets you rate calls based on standard rates and tariffs (updated regularly) or custom rating plans. The system supports a range of rating logic, including WATs, InWATs, VPNs, and private networks; surcharges and discounts are user-definable. The Tie Line Reconciliation module matches calls from multiple switches in a private network application. Call-Master provides more than 200 standard reports and any number of user-definable reports, which can be distributed via email. Call-Master also is Web-enabled and can be accessed by any authorized user via any browser over intranet or the Internet. Call-Master pricing starts at approximately $10,000.

CINTECH

Tele-Series Call Accounting for Norstar KSU was designed to give

users more flexibility with reports, functionality with account codes, and control with costing. Tele-Series version 6.0 is the latest release of Cintech's (Cincinnati, OH -- 513-731-6000, www.cintechcti.com) call accounting software. The software has more than 42 detail, directory, summary, and exception reports. The Account Code Detail Report lets you review detailed call information on specific accounts. Tele-Series automatically records and calculates the cost of calls, generating reports for accurate billing. Cintech's integrated ISP report tracks Internet use by detailing the duration of the call, the extension from which it was placed, the name and phone number of the specified Internet provider, and the account code entered by the station set user.

COMMUNICATION SCIENCES

Communication Sciences (Edison, NJ -- 732 632-8000, www.comsci.com) is an application service provider for "total telemanagement" systems, which include call accounting, invoice processing, auditing, and related **Web - based** reporting and analysis products and services addressing voice, data, and video communication. The call accounting portion is ComSci's Cost Management service bureau, which lets you produce a single bill for all telecom services, including usage (telephone, trading turret, cellular, calling card, audio/videoconferencing, etc.) and types of equipment. The CallAnalyzer for the Web provides automatic email notification of standard or user-defined available reports that are Web-enabled. It uses a GUI-based visual data-mining analysis and reporting tool, which lets you graphically analyze and drill down into call records to identify hidden trends, anomalies, and "relationships." Pricing is based on customer design specifications.

CONNECTIONS

WinBill from Connections (Orange, CA -- 714-637-3064) is designed to automate the process of tracking all your telecommunications bills and expenses in a central, networkable database structure. Using import technology, WinBill can take information electronically from all of your vendors (voice/data, cellular, paging, etc.), or the info can be manually entered, for complete bill auditing and trending for your organization.

WinBill can run alone or on a network to regulate your telecom expenses. The reporting features are designed to isolate exceptions, create telecom budgets, and relationally view all of your telecom expenses. WinBill can allocate expenses by cost center and/or percentage.

CTI SOFT.COM

CTI Soft-Com's (Valley Forge, PA -- 610-666-1700) Unity runs under Windows 95, 98, NT or the Novell/Banyan network operating system. Bells and whistles abound here; standard features include email report distribution, access security toll fraud notification, multiple user access, customizable reports, and a feature that lets you schedule those reports. CTI also offers a service bureau for those just not willing to get their paws dirty. With this setup CTI manages the system/clients remotely. Unity starts at $400 for 50 or fewer users and stretches the wallet to $12,500 for an unlimited number of extensions. The service bureau charges 35 cents a record. That's less than half a can of soda to you and me. (Ed's note: New York prices; soda, that is.)

E-COMMS MEANS NEVER HAVING TO SAY "IT'S TOO LATE"

Here's one: A long-ago-terminated employee, it turns out, is now suspected of foul play connected to calls he made while employed. "Can you get the call records from 1991?" asks the old man upstairs. E-Comms (Gig Harbor, WA -- 253-857-3399, www.e-comms.com) lets you do just that. How? It's a network call buffer for remote or unattended sites that can store data for seven to ten years (depending on the model.) It uses lithium batteries supporting non-volatile memory. It supports FTP and Telnet and SNMP. It includes up to eight serial ports, an internal modem, and alarm filtering. Prices start at $1,795.

HOMISCO INC.

VCA1000 Call Accounting from Homisco (Melrose, MA -- 781-665-1997) is NT-based and supports multiple-PBX, PMS, and multiple-tenant capability. It has GUI, LAN connectivity, and remote client access, and it exports to Crystal Reports. TCS700 Call Accounting is the company's Linux-based system, and HVMS/TCS600 Combo is call accounting software designed for use

with Homisco's HVMS Voicemail system. Perfect for sites with fewer than 500 extensions, it supports PBX and PMS integration for hotels and has 14 standard call accounting reports.

INFO GROUP

Info Group (Framingham, MA -- 508-628-4500) has a package built for medium to large-size, single or multisite businesses of 500 or more extensions. They call it Info Call. This system runs on NT and uses an SQL database for storage and reports. Info Call also comes with a buffer box, now there's something. Pricing starts at $5,000.

INTEGRATRAK

WinTrak call accounting software is a family of management tools. Residing as native Microsoft Windows applications, WinTrak modules operate on stand-alone personal computers or on local area networks. IntegraTrak (Bellevue, WA -- 800-900-TRAK) offered call accounting early on with its DOS-based Trak-a-Dial Call Accounting system in 1985. It has designed each WinTrak module to perform a specific call accounting function, either in conjunction with other modules or independently as a specialty application. WinTrak's three ProPak call accounting packages and the new MicroPak call accounting system provide the foundation of IntegraTrak's voice and data communications network management software. Just as with Trak-a-Dial, WinTrak users have access to call traffic management options, ranging from report templates with dynamic criteria filters to a tie-line reconciliation module that lets you adjust for the multiple call records and local loop surcharges often generated with tie-line services.

INTER-TEL INC.

Inter-Tel's (Kennelworth, NJ -- 908-245-8700) accounting software runs on a Windows GUI and lets you create call management and accounting reports from your telephone system's call record data. The reports help you identify possible phone fraud by eliminating unnecessary expenses. It ships with ten preprogrammed reports, including account code by time, account code summary, toll calls by time, long calls by time, station summary, trunk by time, trunk summary, and traffic. You can also create hundreds of customized reports.

IS ASSOCIATES INC.

TeleCount from IS Associates (Troy, MI -- 248-583-3440)is a 32-bit Windows 95/98/NT4/2000 telemanagement package designed for midsize to large organizations. TeleCount covers all the necessities of call accounting and telemanagement at an extremely competitive price and includes features like Real-Time Toll Fraud Reporting, Traffic Analysis, Hospitality, Real-Time Data Capture, TeleCountDirectory Viewer, Real-Time Reporting. TeleCount is specifically designed to serve as an all-encompassing yet easy-to-use telemanagement solution. TeleCount's installation is wizard-driven, taking you step by step through the installation and configuration processes. Average installation and configuration of the TeleCount system takes 30 to 60 minutes.

ISI INFORTEXT

ISI Infortext (Schaumburg, IL -- 847-995-0002, www.isi-info.com) has several call accounting options. Infortel for Windows v4.0 runs on Windows 98 or NT. It has "enhanced" rate table support for more than 120 long distance tariffs from AT&T, MCI, Sprint, and other vendors; a rating engine, which lets you set up to four billing classes defined by station number or authorization/account code; and enhanced SDN translation, which lets you establish a software-defined network between multiple locations.

LUCENT TECHNOLOGIES

Lucent (Basking Ridge, NJ -- 800-477-1099) offers a portfolio of call accounting and telemanagement products suitable for small, midsize, and large enterprise networks. CAS XP is a new Windows NT solution with integrated IP network accounting, Web browser viewing of reports, the ability to quickly email reports to cost center managers, plus integration with Definity network and site administration (DNA/DSA). CAS XP addresses technology convergence by tracking all network traffic, including Web browsing, email transfers, Internet downloads, streaming multimedia, and circuit-switched and VoIP telephony; plus, LAN/WAN communications are all consolidated in one integrated database. Reports let IT or telecom managers and executives easily identify exactly the amount of detail needed to

ensure compliance with network use policies and plan for future bandwidth growth. A new version of Definity Network Telemanagement (1.3) includes an advanced workflow manager, DSA/DNA integration, email support for Microsoft plus Lotus Notes, and easy access to reports using Explorer or Navigator.

MER'S TABSWEB DOES THE WORK

TABSweb by Mer Telemanagement Solutions (Secaucus, NJ -- 201-553-0777) is an Internet-based service bureau that controls the polling, storing, and archiving of your call data. Records are updated in a Microsoft SQL-Server database nightly; you can access them whenever you need the information. A Web browser, TABSweb, and a password, and the world of call accounting is your oyster.

METROPOLIS TECHNOLOGIES

Metropolis (San Diego, CA -- 858-488-460Q, www.metropolis-tech.com), originally created its call accounting for larger manufacturers but has products available for both dealers and end users. OfficeWatch Business Call Accounting and ProfitWatch for Hotels for Windows 98/NT share the same look and feel, letting dealers become proficient on both products. Metropolis provides around-the-clock support but anticipates minimal support calls, with features such as voice-enabled alarms that "speak" to users and offer suggestions on how to resolve alarm conditions. Alarm conditions can also trigger email and/or pager notifications. Reports can be scheduled for automatic emails. The Enterprise version allows users to control the call accounting server from any LAN or Internet workstation, depending on security access. Fully functional trial versions of OfficeWatch or ProfitWatch -- which can also be used for just-in-time installs -- are available at the Metropolis Web site.

MICRO-TEL

Microcall Web from Micro-Tel (Norcross, GA -- 800-622-2285, www.microcall.com) has the same features as Microcall for Windows call accounting software, plus 200 additional graphs and tables to document Internet usage, bandwidth consumption, email usage, etc. The system can distribute an unlimited number of customizable reports via Internet, email, LAN, WAN, or printer; it can also convert reports to HTML. Microcall Web runs on Win95, 98, or NT.

MIKE SANDMAN ENTERPRISES

CallWhere 3.0 is Win-based call accounting that sells at a very low cost from Mike Sandman, Enterprises (Roselle, IL -- 630-980-7710). The program doesn't have all the rates for all of the phone companies built into its database: you simply enter flat rates for local and long distance calls. If you wanted, you could enter a different rate for each area/exchange code. More than 100 phone systems can be selected, or a new phone system can be added during installation in about ten minutes. There are hundreds of standard reports available; you also can make a custom report with Crystal Report Writer (since the program uses a standard MS Access database).

MIND CTI

Mind CTI's (Englewood Cliffs, NJ -- 888-838-MIND) PhonEX is a call accounting system designed for the high end of the enterprise market. Mind CTI claims compatibility with all PBXs and has been fully integrated with two IP PBXs. It can be used with both Lucent's ExchangeComm and Tundo Corporation's Network Telephony System (NTS). Mind PhonEX collects records and stores all call information in a customized database. You can generate up-to-the-minute reports on your organizations' telephone use. Mind PhonEX has a powerful Query Generator that lets you instantly generate customized reports and graphs and perform comparative call analysis. Reports can be scheduled and automatically produced, distributed by email, posted on the Web, and printed. Mind PhonEX Traffic has an add-on module that is used for monitoring call traffic and analyzing call loads, as well as a guard for fraud detection.

PINNACLE SOFTWARE

Although Pinnacle Software's (Pittsford, NY -- 716-381-2750) AXIS Communications Management System supports voice, data, and video management in enterprise-wide networks, Telephone Manager is the call accounting part of the system. You can view several aspects of account information (recurring equipment charges, one-time charges, billing history, and

installed equipment) from one screen. AXIS is also fully Web-enabled, letting you access billing data, usage information, work order status, and online directories in real time using an Internet browser.

RESOURCE SOFTWARE INTERNATIONAL LTD.

Shadow Suite 2000 from Resource Software International (Oshawa, Ont. -- 905-576-4575) is a voice and data computer telephony management application. Shadow comes complete with real-time graphical, historical, and statistical reporting. Reports can be generated to HTML, email, MS Word, ASCII, and other popular formats. It works with any telephone system and starts at $995.

RBS COMPUTER CORP.

RBS Computer Corp.'s (Short Hills, NJ -- 973-379-3957) reliable OS UNIX-based call accounting package, RBSCA, provides a variety of reports, including call detail/summary, trunk reports, and statistical reports of inbound and extension-to-extension calls. All reports can be displayed onscreen, printed, or emailed. RBS-CA supports an unlimited number of users. Software starts around $2,500, and a complete turnkey system starts at $9,200.

SAI

SAI's (El Dorado Hills, CA -- 800-775-0025) Sierra Gold VTS features **Web** - **based** reporting and unlimited service at "limited cost." Designed especially for multisite enterprise customers with more than 2,000 extensions, Sierra Gold VTS uses the Internet to deliver reports directly to a manager's desktop any time, anywhere. Fast login provides quick, easy access to reports via email, which includes the Internet URL where reports are located. End-user managers simply click on the URL link from within the email message to connect directly to specific end-user reports; report Web sites are customized to match a customer's corporate Intranet. Using a standard Web browser, NetQuery affords secure, around-the-clock access to polled call records and processed reports within hours of polling call record data. NetRequest also creates call detail and traffic reports on demand for any timeframe.

SYSTEMS DESIGN AND DEVELOPMENT

Systems Design And Development's (Boca Raton, FL -- 561-367-1648) Jazz call accounting package is a 32-bit client/server-based system that operates under Windows NT/3.1 and higher to rate and directly post guest calls to a variety of PMS databases. Unlike standalone call accounting systems, which require separate hardware, Jazz operates on the same network and platform as the PMS, enabling more than one person to access call records, print reports, and effectively manage telephone revenues and expenses. By eliminating standalone hardware and interfaces and protocol converters, Jazz also lets corporate hotel chains and management companies transmit and access call data throughout their multiple properties and centrally analyze, forecast, and publish phone revenues and costs using integrated PC-based applications, such as Microsoft Excel and PowerPoint.

SOFTECH TELECOM INTERNATIONAL

Ringmaster ICMS from Softech Telecom International (Boston, MA -- 9784591-5812) is an integrated management tool designed to monitor and report on a wide range of communications platforms including fixed-line telephony, Internet, email, and soon mobile telephony and Vole Ringmaster TMS, a module for ICMS, is a full 32-bit single- or multi-user, network-based call accounting system that runs under Windows 95, 98, and NT. Data is collected by the Ringmaster server, which gathers information from a PBX and then carries out the initial processing of calls before storing them in the Recorded Calls database. This data is then used by desktop PCs to generate the reports requested by the user, which can be output to screen, printer, file, or email. The reports also can be output to Excel and HTML format to be viewed by an Internet browser. Ringmaster IMS interprets log files from proxy servers, firewalls, and mail servers and provides detailed reporting on individual or company-wide browsing patterns, including Web sites accessed. There is a costing engine that facilitates "bandwidth billing" for Internet services.

SWITCHVIEW, INC.

InteleControl by Switchview (Waterloo, Ont. CAN -- 519-746-4460) is a powerful multisite, multi-user client/server system with application

modules including Facilities, Directory, Call Accounting, Alarms, Traffic, Toll Fraud, Work Orders, Moves/Adds/Changes, and Call Center reports. The new Telecom Web Page app lets you examine telecom reports using a browser. Directory updates are automated and available via the corporate Intranet. The system incorporates a common database for all apps and many automated interfaces, for integration with corporate accounting and human resource systems. InteleControl supports both IP and pollable buffers and all "leading manufacturers'" telecom equipment.

TELCO RESEARCH

TRU C@ll Accountant from Telco Research (Nashville, TN -- 615-872-9000, www.telcoresearch.com) is an intuitive, Web-enabled call accounting system designed for schools and businesses with fewer than 1,500 telephone extensions and up to five remote sites. It provides detailed, predefined, or custom reports for traffic or call analysis. TRU C@ll Accountant for Windows 95, 98, or NT offers seven easy-to-use applications: cost allocation, CDR recording, traffic **statistics** , CDR **polling** , directory management, toll fraud detection, and a scheduler. Call accounting reports can be emailed via LAN, intranet, or Internet using MAPI- or SMTP-compliant email systems. Reports can also be saved in RTF or HTML format and viewed with a browser.

TRU Access Manager provides network usage information needed to ease managers' cost, security, and productivity concerns. Whether an employee connects to the network through a switched service or tunnels through a secured VPN arrangement, TRU Access Manager knows who's accessing the network, when and how. It can provide information on which network services are being used and which Internet sites are being visited. Standard reports show cost and usage trends, helping businesses monitor network policies, audit security plans, allocate cost to departments and end users, identify network failures, and lower the cost of total ownership. After setup, TRU Access Manager automatically collects data in real time and provides alarms that monitor for abuse.

TELESOFT CORP.

TelMaster from Telesoft Corp. (Phoenix, AZ -- 800-456-6061) is a modular client/server application whose functionality ranges from flexible cost allocation, convergence billing, and Web reporting to invoice processing, user administration, and facilities management. TelMaster can provide reports, directory look-up, and facilities management functions via a standard Web browser on your intranet. It also can run in an NT or UNIX environment with Oracle or SQL database. Telesoft has a MicroPoll polling device that can be used for dial-up or network collection of call records from "virtually" any PBX and/or key system.

TELS CORPORATION

Win-Sense from Tels Corporation (South Jordon, UT -- 801-756-9606) is a Windows-based (3.1, 95/98, NT) call accounting management app for small to large businesses. It supports NANP and uses a costing system based on AT&T tariffs and V&H coordinates. Users can control pricing, markups, how calls are categorized for pricing, exchange-to-exchange costing, cost per minute (or cost per call options), as well as user-defined costing of special calls (such as 800, 900, etc.), taxes, and markup by facility. You can generate custom reports or export the data to other applications such as spreadsheets, general accounting, graphic presentations, and email. It retails for $1,495.

TELEMANAGEMENT, INC.

Telemanagement Technologies (Walnut Creek, CA -- 925-946-9800) now offers WinCall 32 Call Accounting version 3.2. You can associate phone sets or fax machines to any extension or WinCall hierarchy. Asset management is now also built into WinCall 32. The new left pane view option lets you see the levels of your organization more clearly and concisely. Quick access icons let you send reports to the option you want: screen, printer, email, Microsoft applications, and more. WinCall lets you schedule call accounting reports to be emailed within your organization. Another new feature is the Enhanced City/State Database to price and sort calls. You can download monthly updates via the Internet each month to stay current. WinCall's City/State, International City/Country Code and North American Numbering Plan (NANP) database files are automatically updated. Finally, WinCall is

MAPI-mail-compliant and ODBC-compliant and exports to all common industry file formats (more than 40 file types).

      TRISYS TELECOM

      Tapit call accounting software from Trisys Telecom (Florham Park, NJ -- 973-360-2300, www.trisys.com) provides unlimited phone record capacity, customized reports, fraud alert, and flexible costing. I testdrove this product last month and found it to be very intuitive and productive indeed. It's available in single-user and multi-user network versions. Check out the February 2000 issue of TELECONNECT for my extended review.

      TRIVIUM SYSTEMS INC.

      For a small to medium-size business with a PBX or key system, CallAnalyst from TriVium Systems (Portland, OR -- 503-439-9338, www.triviumsys.com) not only tracks calls in real time, but analyzes and **monitors** calls by line, extension, date, and time. Use customized reports to keep on top of incoming and outgoing calls by duration, expense, frequently called number, and department. Reports also can be produced in graph form, including a map of the U.S. to track **call activity** anywhere in the 50 states.

      If you have several internal departments or your business comprises multiple sites, you can purchase additional licenses and create a system network, with each department or site creating its own reports, which can be scheduled and archived as you decide. CallAnalyst is Win-based (95, 98, or NT).

      OMNITRONIX

      The Data-Link Pollable Remote Access Unit from Omnitronix (Seattle, WA -- 206-624-4985, www.omnitronix.com) is a compact unit that combines the operations of an SMDR buffer, a terminal server, a remote site manager, and an SNMP proxy agent, all in one small box that you can access and receive alarm notifications from in a host of ways. Elaine recently Testdrove this product (see the December issue) and dug it. The Data-Link runs on Windows 95 or 98.

      WTI

      The Pollcat NetLink Call Accounting Terminal is PBX data recorder designed for SMDR/CDR data collection and alarm monitoring. Collected call records can be retrieved via TCP/IP network, via modem, or by a local PC connected directly to the console port. The NetLink also can monitor call records for suspicious phone activity of critical alarm conditions. When an alarm is detected, the NetLink can immediately notify the proper personnel by pager, modem, or SNMP trap.

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COMPANY NAMES: Amtel Co.--Products; Angeles Group Inc.--Products; Cintech --Products; Communication Sciences Inc.--Products; Connections--Products
DESCRIPTORS: Telephone management software; Software multiproduct review; Hardware multiproduct review
PRODUCT/INDUSTRY NAMES: 7372672 (Telephone Management Software)
SIC CODES: 7372 Prepackaged software
NAICS CODES: 51121 Software Publishers
TRADE NAMES: Amtel Smarty (Telephone management device)--Evaluation; Call-Master (Telephone management software)--Evaluation; Tele-Series 6.0 (Telephone management software)--Evaluation; CallAnalyzer for the Web (Telephone management software)--Evaluation; WinBill (Telephone management software)--Evaluation
FILE SEGMENT: CD File 275

...   NJ -- 732 632-8000, www.comsci.com) is an application service provider for "total telemanagement" systems, which include call accounting, invoice processing, auditing, and related **Web - based** reporting and analysis products and services addressing voice, data, and video communication. The call accounting portion is ComSci's Cost Management service bureau, which lets...2,500, and a complete turnkey system starts at $9,200.

      SAI

      SAI's (El Dorado Hills, CA -- 800-775-0025) Sierra Gold VTS features **Web - based** reporting and unlimited service at "limited cost." Designed

especially for multisite enterprise customers with more than 2,000
extensions, Sierra Gold VTS uses the Internet...

...traffic or call analysis. TRU C@ll Accountant for Windows 95, 98, or NT
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8/9,K/2   (Item 1 from file: 674)
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086880
Windows watchers
ipMonitor is tops at keeping a close watch on your midsize Windows network
Byline: BARRY NANCE, NETWORK WORLD TEST ALLIANCE
Journal: Network World   Page Number: 53
Publication Date: September 04, 2000
Word Count: 3152   Line Count: 307
Text:
Problem notification on small, local networks is easy - just listen for
the complaints from your co-workers. On large, global networks, an
enterprise-level network management platform can keep watch. But for a
midsize network (up to several hundred nodes), you 'll need one of these
  monitoring and alerting software packages. While these tools aren 't as
feature-laden as ones from Tivoli, Computer Associates or Hewlett-Packard,
they can automatically detect network connectivity problems, Windows NT
operating system problems or both. In fact, two of the tools we reviewed
can only **monitor** IP-addressable devices and SNMP-manageable nodes (see
story, page 56). The other seven offer varying degrees of connectivity
surveillance and server health **monitoring** .Some **monitoring** and alerting
tools can tell you - via e-mail, pager, SNMP alert or other means - that a
server 's CPU is overloaded, its memory resources are nearly exhausted, its
free disk space is precariously low, or that some other error condition
exists. In some cases, these tools can reboot a server, restart a service
or take other corrective action without your intervention. For
connectivity, a tool might ping IP-addressable devices or poll
SNMP-manageable devices to alert you to network failures.Using one of these
tools, you get notification of problems earlier than if you waited for
users to complain. Remember that the earlier you deal with a problem, the
smaller it is, and the later you deal with it, the bigger it is.Our
evaluation focused on Windows-based products that notify network
administrators about connectivity and server health problems. We tested
nine products: Ipswitch 's WhatsUp Gold 5.0, Ripple Technologies '
LogCaster 2.6, NetIQ 's AppManager 3.4, Breakout Technologies ' **MonitorIT**
2.0, NTP Software 's System Sentinel 2000, MediaHouse Software 's ipMonitor
6.0, Heroix 's RoboMon NT 7.5, Dartware 's InterMapper 3.0 and Argent
Software 's Guardian 4.1A.Our World Class Award goes to ipMonitor, which
proved to be a superior and intelligent problem notification aid for our
network. Its **monitoring** and reporting features, together with its slick
user interface, impressed us greatly. AppManager and RoboMon NT deserve
special mention. Their ability to closely **monitor** the Windows operating
system rivaled ipMonitor 's.nIP those problemsMediaHouse 's ipMonitor

watches Windows NT/2000 machines for excessive resource consumption (via NT Performance **Monitor** data), failed NT services and specific event log entries. IpMonitor supervises particular applications, such as Oracle and SQL Server, and it also pings IP-addressable network devices to check for availability and polls them via SNMP to discover their status. The network scanning feature for discovering IP-addressable network devices, like the one WhatsUp Gold uses, is quick and accurate. IpMonitor further impressed us by noting changes to files on our servers, verifying Web page links and maintaining surveillance on our Win 2000 Active Directory data. In addition to e-mail, pager and SNMP alerts, ipMonitor can also alert an ICQ chat account, issue a network broadcast message, issue a help desk trouble ticket via third-party software or insert an entry into the NT event log. It offered the most corrective action options, including rebooting a server, restarting an NT service or launching a program, batch file or third-party diagnostic utility. IpMonitor 's reports are highly useful and configurable. The supplied report templates include Availability, Response Time, Downtime, Diagnostic Analysis, and Health and Trouble reports. For two user-selectable time intervals (current and historical), the reports show historical activity and can predict trends. Administrators can designate one or more e-mail address destinations for each report. IpMonitor stores **monitoring** parameters and statistical performance data in its internal database. The ipMonitor **Web - based** interface is well-designed and slick. IpMonitor 's use of colors to indicate the status of a **monitored** device or parameter (green for OK, yellow for a new problem, red for a problem for which notifications have been issued and dark red for older problems for which ipMonitor has already transmitted several alerts) provides a great deal of information to anyone who glances at the **Monitor** Status window. Through ipMonitor 's Web pages, we could choose **monitoring** tasks to run, indicate the schedule on which they should run, and view ipMonitor 's reports and status displays. Installation was a breeze. The printed documentation is a simple OGetting StartedO booklet, but the online help is comprehensive, clear and context-sensitive. An application perspectiveThe **monitoring** agents of NetIQ 's AppManager impressed us by detecting broken trust relationships across Windows NT/2000 domains, identifying hung and terminated NT/2000 services, noting which applications caused excessive CPU or memory usage, and tracking the number of open shared files. It discovered which users consumed the most SQL Server resources (CPU, memory, disk I/ and locks), and it **monitored** Exchange throughput and Internet Information Server (IIS) connections and session timeouts. Via SNMP, AppManager discovered and **monitored** our network devices and non-Windows computers. Like ipMonitor, AppManager could **monitor** Windows NT/2000 's performance parameters, event logs, registry, services and specific applications running on NT/2000, such as Oracle, SQL Server, Exchange, Lotus Domino, Citrix MetaFrame, Citrix WinFrame and SAP R/3. Its easy-to-understand script language for creating rules and defining behaviors is a dialect of Microsoft 's powerful and popular Visual Basic. AppManager can notify administrators of problems via e-mail, pager calls or SNMP alerts. But it doesn 't send network broadcast messages, nor does it issue help desk trouble tickets through third-party software. In addition to its other corrective actions, we liked AppManager 's ability to interact with a database through Open Database Connectivity (ODBC). We found setting up AppManager 's real-time reporting of performance factors especially easy. By merely dragging and dropping script icons onto target computers in the Win32 console 's tree view, we quickly defined several reports that AppManager immediately began running. The real-time graphs of system **activity** also let **us** drill down for details, such as which SQL statements were causing excessive CPU usage in SQL Server. AppManager 's reports also showed system status and inventory data. For example, we could see exactly which files were being shared by each server, as well as the IP addresses of network adapters installed in the NT machines. AppManager can produce more than 200 reports. The Win32 native console and browser-based interface offered the same functionality and were easy to navigate. Each displayed information clearly and intuitively. The multithreaded Win32 console, we noted, was amazingly responsive during our

tests. AppManager 's installation process is almost child 's play. However, it requires that you already have SQL Server 6.5 or 7.0, which adds considerably to the total cost of the product and caused us to lower the product 's installation score-card entry. The printed documentation is clear and professionally done, as is the online help. However, the printed documentation defers to the online help in many places, especially with respect to setting up corrective actions.Hey, mon! A network repair robotAlthough architecturally different, NetIQ 's AppManager and Heroix 's RoboMon NT have similar features, strengths and weaknesses. We gave RoboMon NT lower scores because it didn 't **monitor** quite as many applications as AppManager, its script language was less powerful and the printed documentation wasn 't as good.RoboMon NT **monitored** many aspects of our Windows NT/2000 servers and clients. It even took steps to correct some problems before they affected our network. For example, when we flooded a shared printer queue with print jobs in one test, RoboMon NT redirected a portion of the print jobs to an alternate printer queue to head off what otherwise would have been a stand-around-the-printer-waiting-for-my-printou t bottleneck. (We enabled pop-up print job completion notifications to send people to the right destination printer.) However, RoboMon NT can 't
  monitor Exchange 2000, SAP R/3 or Lotus Domino R5.Configuring rules to direct RoboMon NT 's behavior is simple and painless, but the script language for creating **monitoring** rules is weak and unsophisticated. The product includes useful default rules for diagnosing problems, checking system statistics and **monitoring** network performance.In another test of RoboMon NT 's ability to keep our network up and running, we overloaded an NT machine with several concurrent tasks. RoboMon NT, using one of its many configurable rules, clearly and descriptively displayed the message, "The number of processes on the system is too high." Clearly and unambiguously, it also told us our Dynamic Host Configuration Protocol address pool was almost empty.For the overall network beyond NT servers, we were disappointed that RoboMon NT **monitored** just Cisco network devices. RoboMon also runs on Unix and OpenVMS, but we didn 't test those versions.Rule-triggered behaviors can consist of notification, corrective action, rule modification and variable modification.Rule modification can enable, disable or reschedule other rules. Variable modification changes one or more of RoboMon NT 's internal settings, which then dynamically affect other rules.We found we could have a rule keep an eye on virtually any NT activity we wished. These activities included NT Performance
  Monitor items, event log entries, Oracle or SQL Server relational database changes, application log file entries, Component Object Model changes and Windows Management Interface events. RoboMon NT even distinguished between chronic problems, persistent problems and new ones. It stores rules and the network data it collects in a Microsoft Access database it creates by default. You can alternately use SQL Server.RoboMon NT 's reporting tools, Report Manager and Graph Manager, present numerous ways to view current and historical network activity. The Graph Manager displays relationships between statistics that RoboMon NT collects, and Report Manager offers reports by group (disk, event, Exchange, Internet, process and system). For example, the system report group menu consists of summary, cache, physical memory, page file, CPU usage, CPU rates, file I/, TCP/IP, client/server, Web server and SQL Server reports. However, RoboMon NT lacks a trend analysis reporting function.RoboMon NT 's user interface is intuitive and easy to master. Access-ing RoboMon NT 's dispersed network components via a central Enterprise Manager module makes a network administrator highly productive.Installation takes between 5 and 10 minutes, during which you have to tell RoboMon NT what each agent is
  monitoring . The printed documentation, consisting of merely a start-up manual, is of poor quality. Paradoxically, the online documentation is comprehensive and clear.A guardian angelLike ipMonitor, RoboMon NT and AppManager, Argent Software 's Guardian is essentially a Windows watcher that can **monitor** many different Windows NT/2000 parameters and applications. Like Ripple Technologies ' LogCaster, Guardian can also keep an eye on Linux computers. To discover and **monitor** network devices such as routers and switches, it can also send IP pings and SNMP polling

requests across the network. However, Guardian 's corrective action feature was more difficult to configure, it has a dearth of built-in reports and the documentation wasn 't as good. And because it starts at $9,000 for 10 servers, Guardian is expensive for small networks.The **monitoring** process is completely configurable and uses an object-oriented, rule-based design. We liked Guardian 's scheduling feature for running recurring **monitoring** tasks. The scripting language is proprietary and quite unlike the script languages within RoboMon NT, AppManager and LogCaster. Each rule set specifies how Guardian should perform its problem detection. A rule set can have up to eight classes: event, performance, program, service, SNMP alert, command, system down and printer. Creating a working rule set is a matter of selecting rules within each class and choosing one or more notification methods.The Guardian Predictor module 's built-in reports consist of just a service-level agreement **monitoring** report and system resource report. However, Guardian stores its **monitoring** parameters, performance data and network device status information in its ODBC-accessible database. Guardian suggests the use of a reporting tool such as Seagate Software 's Crystal Reports to depict its data. In contrast, NetIQ 's App-Manager has more than 200 built-in reports, which made AppManager much more useful out of the box.The native Win32 user interface is easy to navigate and simple to operate. Guardian 's Web interface can display server status information and the product 's limited set of built-in reports, but it lacks the Win32 console 's ability to configure Guardian. In addition, the Web interface requires IIS and doesn 't work with Netscape or Apache Web servers.Installation was straightforward. The documentation, a downloadable collection of PDF and Word for Windows document files, is comprehensive but lacks polish. In places, it 's cryptic and seems to have been written by a software engineer.Halt! Who goes there?NTP Software 's System Sentinel 2000 is a Windows watcher with a twist - pretending to be a user (using account IDs and passwords you specify), it can log on to remote servers to check accessibility as well as availability. It can also propagate System Sentinel configuration changes across multiple System Sentinel servers.Like Heroix 's RoboMon NT and NetIQ 's AppManager, System Sentinel tracks Windows NT/2000 event log entries, services and Performance **Monitor statistics** . Via IP pings and SNMP **polling** , System Sentinel also **monitors** the health of network devices. However, it doesn 't track specific applications running on NT/2000 or changes to the registry.When System Sentinel detects a problem, it can send e-mail, call a pager, update a relational database via ODBC or transmit an SNMP alert. Its corrective action options include launching a program or batch file, restarting a failed service, starting or stopping remote services and rebooting the computer.By the time you read this, NTP Software says it will have incorporated a new reporting tool in System Sentinel. In the version we tested, the new report module provided a detailed history of Windows NT/2000 events that we could sort by event type, date, source, category, computer and other criteria. The new reporting tool also has a primitive trend analysis reporting capability.The user interface is Explorer-like, with an expandable/collapsible list of System Sentinel configuration entries on the left and, for selected configuration entries, detailed information on the right. There is no **Web** - **based** interface.Installation is simple. The printed documentation consists of just an installation and quick-start guide, and the online help is incomplete and sometimes confusing.Casting for network problemsRipple Technologies ' LogCaster does a good job of **monitoring** Windows NT/2000 event logs, performance data, TCP/IP-based devices and certain services. Using filters that took us just minutes to set up, LogCaster selected and consolidated entries in our event logs and then notified us when problems occurred. Its **monitoring** of NT/2000 services and performance data similarly produced notifications when, for example, a particular service unexpectedly died or CPU utilization approached 100%. At intervals we specified, LogCaster 's TCP/IP Watcher pinged our routers, Web servers and TCP/IP clients to identify network failures.LogCaster also has a Syslog Watcher **monitoring** tool for spotting problems as they crop up in Unix or Linux log files. Syslog Watcher works by translating User Datagram Protocol (UDP) messages it

receives on Port 514 into NT event log entries. LogCaster includes plug-ins for **monitoring** Citrix MetaFrame servers and Check Point Software Firewall-1 servers.In all cases, LogCaster 's **monitoring** agents insert entries in the NT/ 2000 event logs. Selected log entries then trigger LogCaster 's problem notification process.LogCaster 's focus is quite narrow. For example, the service **monitoring** agent only works with Exchange 5.5, IIS 4.0, Proxy Server 2.0 and SQL Server 7.0. It doesn 't **monitor** for Oracle, Active Directory, SNA Server, SAP R/3, Terminal Service, Citrix WinFrame or Lotus Domino. Furthermore, if a problem doesn 't manifest itself in the Windows NT/2000 event log (either on its own or through a LogCaster agent), LogCaster won 't see it.LogCaster can send problem notifications via e-mail, pager, SNMP alert and, via ODBC, a relational database. Its corrective-action feature can launch a program or batch file to fix a specific problem. Ripple Technologies doesn 't provide any repair options such as Orestart this serviceO or Oupdate this database with these SQL statements.LogCaster 's reports are line graphs depicting one or more **monitored** statistics, such as available memory bytes per server, for a specific time period. Unfortunately, LogCaster 's reporting tool can 't produce list- or tab-format reports.We liked the ability to define Business Groups in LogCaster. We used this feature to designate whether an NT machine was in a System Group or a particular Business Group, then produced reports (graphs) that distinguished **monitored** statistics by type of machine.The Win32 console 's user interface is straightforward and intuitive, and its dialog boxes are especially easy to understand and navigate. The telnet interface for remote administration is functional but far from elegant. LogCaster doesn 't have a browser-based interface.LogCaster 's installation process is simple and doesn 't require rebooting NT or Windows 2000. The printed documentation is thorough and clear. **Monitoring** ITLike ipMonitor, RoboMon NT and AppManager, Breakout Technologies ' **MonitorIT** **monitors** Windows-based computers. However, its server component runs on Windows 95/98 as well as Windows NT/2000. It can also ping IP-based network devices to determine connectivity and availability, and it can poll servers to **monitor** for HTTP, FTP, SMTP, POP3 and Domain Name System activity. From all the Windows machines on the network, **MonitorIT** gathered the performance and configuration data we selected from its menus. The menu items we could choose from included cache, Distributed Transaction Coordinator, HTTP indexing service, memory and network interface. **MonitorIT** 's notification methods include sending e-mail, calling a pager and launching a program to take corrective action (the program runs on the **MonitorIT** server, although the problem may have occurred on a different machine). **MonitorIT** doesn 't transmit SNMP alerts.For our Windows machines and IP-addressable devices, the reporting tool gave us excellent real-time and historical views of availability, performance and selected **monitored** events. Using the predefined report templates showed us NT Server general performance, file server performance, IIS performance and other data. The product 's built-in inventory reports listed IP-addressable computers and **MonitorIT** configuration data.

MonitorIT 's score-card value for management is lower because its native Win32 interface is not intuitive. When defining an alert (for example, setting up a threshold to be **monitored**), the program starts off in a Oreview mode. You must click on New or Edit buttons to enter alert parameters. Furthermore, the interface expects you to hover the mouse cursor over what it terms Counters and Objects to see a selectable list of those Counters and Objects. In contrast, the product 's Web interface is much easier to use and offers remote access to all **MonitorIT** 's administration and reporting functions. **MonitorIT** installation is complicated only by the need to choose whether to use SQL Server or

MonitorIT 's internal database to store the **monitoring** thresholds and performance data. The printed documentation and online help are adequate.Network administrators deserve a useful task automation tool that can keep a watchful eye on servers and network devices. For keeping small to midsize Windows-based networks up and running, we strongly recommend MediaHouse Software 's ipMonitor. It can shoulder a considerable portion of a network administrator 's NT server **monitoring** burden as well as quickly

detect network device connectivity problems. NetIQ 's AppManager and Heroix
's RoboMon NT are also excellent early-warning tools for discovering and
dealing with Windows server errors and network issues.Nance, a software
developer and consultant for 29 years, is the author of Introduction to
Networking, 4th Edition and Client/Server LAN Programming. His e-mail
address is barryn@erols.com.

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... for-my-printout bottleneck. (We enabled pop-up print job completion notifications to send people to the right destination printer.) However, RoboMon NT can 't **monitor** Exchange 2000, SAP R/3 or Lotus Domino R5.Configuring rules to direct RoboMon NT 's behavior is simple and painless, but the script language for creating **monitoring** rules is weak and unsophisticated. The product includes useful default rules for diagnosing problems, checking system statistics and **monitoring** network performance.In another test of RoboMon NT 's ability to keep our network up and running, we overloaded an NT machine with several concurrent...

... told us our Dynamic Host Configuration Protocol address pool was almost empty.For the overall network beyond NT servers, we were disappointed that RoboMon NT **monitored** just Cisco network devices. RoboMon also runs on Unix and OpenVMS, but we didn 't test those versions.Rule-triggered behaviors can consist of notification...

... affect other rules.We found we could have a rule keep an eye on virtually any NT activity we wished. These activities included NT Performance **Monitor** items, event log entries, Oracle or SQL Server relational database changes, application log file entries, Component Object Model changes and Windows Management Interface events. RoboMon...
... makes a network administrator highly productive.Installation takes between 5 and 10 minutes, during which you have to tell RoboMon NT what each agent is **monitoring** . The printed documentation, consisting of merely a start-up manual, is of poor quality. Paradoxically, the online documentation is comprehensive and clear.A guardian angelLike ipMonitor, RoboMon NT and AppManager, Argent Software 's Guardian is essentially a Windows watcher that can **monitor** many different Windows NT/2000 parameters and applications. Like Ripple Technologies ' LogCaster, Guardian can also keep an eye on Linux computers. To discover and **monitor** network devices such as routers and switches, it can also send IP pings and SNMP polling requests across the network. However, Guardian 's corrective action ...

... reports and the documentation wasn 't as good. And because it starts at $9,000 for 10 servers, Guardian is expensive for small networks.The **monitoring** process is completely configurable and uses an object-oriented, rule-based design. We liked Guardian 's scheduling feature for running recurring **monitoring** tasks. The scripting language is proprietary and quite unlike the script languages within RoboMon NT, AppManager and LogCaster. Each rule set specifies how Guardian should...

... within each class and choosing one or more notification methods.The Guardian Predictor module 's built-in reports consist of just a service-level agreement **monitoring** report and system resource report. However, Guardian stores its **monitoring** parameters, performance data and network device status information in its ODBC-accessible database. Guardian suggests the use of a reporting tool such as Seagate Software...multiple System Sentinel servers.Like Heroix 's RoboMon NT and NetIQ 's AppManager, System Sentinel tracks Windows NT/2000 event log entries, services and Performance **Monitor statistics** . Via IP pings and SNMP **polling** , System Sentinel also **monitors** the health of network devices. However, it doesn

't track specific applications running on NT/2000 or changes to the registry.When System Sentinel detects...

... an expandable/collapsible list of System Sentinel configuration entries on the left and, for selected configuration entries, detailed information on the right. There is no **Web - based** interface.Installation is simple. The printed documentation consists of just an installation and quick-start guide, and the online help is incomplete and sometimes confusing.Casting for network problemsRipple Technologies ' LogCaster does a good job of **monitoring** Windows NT/2000 event logs, performance data, TCP/IP-based devices and certain services. Using filters that took us just minutes to set up, LogCaster selected and consolidated entries in our event logs and then notified us when problems occurred. Its **monitoring** of NT/2000 services and performance data similarly produced notifications when, for example, a particular service unexpectedly died or CPU utilization approached 100%. At intervals...

... specified, LogCaster 's TCP/IP Watcher pinged our routers, Web servers and TCP/IP clients to identify network failures.LogCaster also has a Syslog Watcher **monitoring** tool for spotting problems as they crop up in Unix or Linux log files. Syslog Watcher works by translating User Datagram Protocol (UDP) messages it receives on Port 514 into NT event log entries. LogCaster includes plug-ins for **monitoring** Citrix MetaFrame servers and Check Point Software Firewall-1 servers.In all cases, LogCaster 's **monitoring** agents insert entries in the NT/ 2000 event logs. Selected log entries then trigger LogCaster 's problem notification process.LogCaster 's focus is quite narrow. For example, the service **monitoring** agent only works with Exchange 5.5, IIS 4.0, Proxy Server 2.0 and SQL Server 7.0. It doesn 't **monitor** for Oracle, Active Directory, SNA Server, SAP R/3, Terminal Service, Citrix WinFrame or Lotus Domino. Furthermore, if a problem doesn 't manifest itself in...

... repair options such as Orestart this serviceO or Oupdate this database with these SQL statements.LogCaster 's reports are line graphs depicting one or more **monitored** statistics, such as available memory bytes per server, for a specific time period. Unfortunately, LogCaster 's reporting tool can 't produce list- or tab-format...

... used this feature to designate whether an NT machine was in a System Group or a particular Business Group, then produced reports (graphs) that distinguished **monitored** statistics by type of machine.The Win32 console 's user interface is straightforward and intuitive, and its dialog boxes are especially easy to understand and...

... browser-based interface.LogCaster 's installation process is simple and doesn 't require rebooting NT or Windows 2000. The printed documentation is thorough and clear. **Monitoring** ITLike ipMonitor, RoboMon NT and AppManager, Breakout Technologies ' **MonitorIT monitors** Windows-based computers. However, its server component runs on Windows 95/98 as well as Windows NT/2000. It can also ping IP-based network devices to determine connectivity and availability, and it can poll servers to **monitor** for HTTP, FTP, SMTP, POP3 and Domain Name System activity. From all the Windows machines on the network, **MonitorIT** gathered the performance and configuration data we selected from its menus. The menu items we could choose from included cache, Distributed Transaction Coordinator, HTTP indexing service, memory and network interface. **MonitorIT** 's notification methods include sending e-mail, calling a pager and launching a program to take corrective action (the program runs on the **MonitorIT** server, although the problem may have occurred on a different machine). **MonitorIT** doesn 't transmit SNMP alerts.For our Windows machines and IP-addressable devices, the reporting tool gave us excellent real-time and historical views of availability, performance and selected **monitored** events. Using the predefined report templates showed us NT Server general performance, file server performance, IIS performance and other data. The product 's

built-in inventory reports listed IP-addressable computers and **MonitorIT** configuration data. **MonitorIT** 's score-card value for management is lower because its native Win32 interface is not intuitive. When defining an alert (for example, setting up a threshold to be **monitored**), the program starts off in a Oreview mode. You must click on New or Edit buttons to enter alert parameters. Furthermore, the interface expects you...

... selectable list of those Counters and Objects. In contrast, the product 's Web interface is much easier to use and offers remote access to all **MonitorIT** 's administration and reporting functions. **MonitorIT** installation is complicated only by the need to choose whether to use SQL Server . or **MonitorIT** 's internal database to store the **monitoring** thresholds and performance data. The printed documentation and online help are adequate.Network administrators deserve a useful task automation tool that can keep a watchful...
...based networks up and running, we strongly recommend MediaHouse Software 's ipMonitor. It can shoulder a considerable portion of a network administrator 's NT server **monitoring** burden as well as quickly detect network device connectivity problems. NetIQ 's AppManager and Heroix 's RoboMon NT are also excellent early-warning tools for...
?

performance, is also...
?

will be available early next year.

OODBMS vendors are eyeing the newly resurgent area of decision support as a way to gain a bigger niche in such mainstream businesses as banks, insurance companies and telecommunications firms. And in decision support, response time is the performance issue.

OODBMSs provide better performance for sophisticated analyses than RDBMSs, say OODBMS vendors. "Relational DBMSs do decision support fairly well, but they do OLTP much better," said O'Brien. RDBMSs are inherently unsuited to the multidimensionality that decision support analyses require, he said.

For example, a bank might want to analyze two subjects -- customers and financial instruments -- and model them over time -- a third dimension -- to do what-if analyses. An OODBMS allows any cell to be a set of things, rather than a specific data item, as in a relational system. In other words, the OODBMS has built-in relationships that the RDBMS has to go looking for.

Avanti Systems Inc., Oakland, Calif., uses ObjectStore in the development of Production Workshop, its maintenance, overhaul and repair system software for large engines, such as jet engines. The company's decision support systems are used to determine which parts are used, replaced or repaired. The system presents sets of alternatives for replacement parts, compatibility rules and acceptability criteria.

"We need to capture a complete assembly hierarchy of whatever is being assembled," said Greg Stachnick, Avanti's vice president of research and development. "That representation is difficult to do in a relational system. An OODBMS provides direct links to subassemblies."

As a result, performance benefits. "Assembly-subassembly relationships don't change over time, except for updates. The structure is pretty much fixed," Stachnick explained. "In an object-oriented system, these linkages become part of the database. In a relational system, you have to execute queries with joins to get links. This takes CPU time."

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SIC CODES: 7372 Prepackaged software
FILE SEGMENT: CD File 275

...   in DB2 to a minimum, he said. "Beyond that, it's a factor of bandwidth and how big their PCs are."

To that end, Buxton **uses   Activity   Monitor** and Opertune to set thresholds for how much data users can get from the databases. "Activity **Monitor** is like the center of a hub. It tells Opertune to do something, like set up a cache in XBM. Caching particular data sets that...already providing a client/server performance monitor for Sybase, as well as for Oracle and Microsoft SQL Server databases. DBGeneral's SQLWatch Option collects server **statistics** in **realtime** . The products work with Microsoft or Sybase SQL Server or Oracel Version 6 or 7. Clients are 386 PCs and above running Windows 3.0...

3/9,K/3   (Item 3 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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01698745   SUPPLIER NUMBER: 16226006   (THIS IS THE FULL TEXT)
 **Billing confirmed: this easy-to-use box turns guest calls into revenue.
 (Intelligent Network Systems' CCS Call Confirmation System) (Hardware
 Review) (Testdrive) (Evaluation)**
Jainschigg, John
Teleconnect, v12, n9, p39(4)
Sept, 1994

DOCUMENT TYPE: Evaluation   ISSN: 0740-9354s   LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 1801   LINE COUNT: 00135

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dealers who bill for installations on the basis of monies generated say CSS
pays for itself in three to six months. Consumers have filed thousands of
protests about inaccurate billing, complaining that hotels charge them for
uncompleted calls. Meanwhile, many hotels do not charge for short calls to
voicemail systems because management-device default times are set at 40 to
55 seconds. Aiming to put an end to such problems, the federal government
has approved legislation to strengthen accounting standards for billing for
phone calls, and state governments and Public Utility Commissions are
considering similar actions. Hoteliers who need to comply with new
standards will find an easy-to-implement, affordable solution in CCS. The
device is a TELECONNECT Editors' Choice.

TEXT:
        It's 8:00 AM. The Convention Shuttle is about to leave. And you're
standing at the Checkout desk, haggling over phone charges on your hotel
bill. Sure, you made a few calls. But this many? No answer on this one, so
why was the call charged? And why didn't they charge for any of those
20-second calls to your voicemail? At $200 a night, you'd think they'd be a
little more careful.
        So you haul out your card and pay up. But it's the last time you'll
stay at this overpriced fleabag. Leona Helmsley doesn't have to figure out
screwy phone bills, so why should you?
        Behind the desk, the hotel manager is sweating. These last-minute
phone reconciliations are bad for business. But what else can he do? Three
hundred guests a night, 365 days a year, all this phone traffic is an
important source of income. And the place to bill for it is here, at the
checkout desk, when other incidental room-charges are closed out. Not
thirty days later, when telco bills show up.
        Unfortunately, his PBX and SMDR-based call-accounting system keep
dropping the ball. Uncompleted calls are charged for. Completed calls are
lost - given away. Records are inconclusive, so there's no way to answer a
guest's questions. And if somebody decides they have a beef, there's
nothing to do about it but eat the disputed charges. Arguing is bad for
business.
        Why do these problems arise? Why can't your PBX and call-accounting
system get it together?
        The answer? Your existing hardware and software are probably doing
the best job they can. But they don't have access to enough information for
reliable, on-the-spot billing. Your PBX only knows about certain aspects of
call progress. It knows about handsets being lifted, numbers being dialed,
and trunks being assigned. But it may or may not know about busy signals,
long rings, SIT tones, and other conditions. So it can't really tell when a
call is answered. And that's when billing is supposed to begin.
        You may have set your call-accounting system to work around the
problem. Maybe you only start billing after a line has been held open for a
certain amount of time (default times of 40 to 55 seconds are common). So
what happens to short calls? What happens with long "ring-no-answers?"
Various sources estimate forfeiture of revenue from billable 1+ long
distance at between 12% and 24% - of local calls at least 30% (actual
statistics for percentage of calls completed under 55 seconds duration, are
shown opposite). That's quite a shot in the pocketbook.
        On the consumer side, thousands of complaints from harried hotel
guests have moved the Federal government to enact legislation that raises
accounting standards for billing telephone charges. State governments and
Public Utility Commissions are expected to follow suit.
        What's a hotelier to do? A real solution is offered by CCS: the
Call-Confirmation System from Intelligent Network Solutions (Dallas, TX).
CCS offers a simple, affordable, transparent answer to the call-monitoring

problem. Installation requires no modification of existing hardware, and no adjustments to call-accounting software, except in rare cases. With CCS in place, your billing system just works better. That's the bottom fine.

HOW IT WORKS

CCS sits between your PBX and its trunk lines, and listens to call progress. It uses this information to modify and correct SMDR records kicked out by the switch, then passes them on to your call-accounting system (or to the next CCS box or other SMDR peripheral). Neither the switch, nor the call-accounting box even know it's there. You get fewer dropped calls. Fewer mis-billed "ring-no-answers." And if there's a dispute, you can go right back to raw call-data and check things out. No more eating charges, just because a guest forgets that he called Surinam.

The CCS unit is an unprepossessing metal box containing one or two circuit cards. Each card supports eight trunks, and systems supporting up to 64 trunks can be built by daisy-chaining boxes, using RS-232 cables that INS can supply. Systems of up to 24 trunks (three cards) can draw power from a single power supply connected to the lead box power is passed to the second box via unused wires on the RS-232 cable), though in larger systems, each box should have its own power supply.

Each eight-line trunk group is connected to its circuit card via a standard, 25-pair Amphenol-type coupler, whose back end is wired into a 66M-150 split block between the PBX and the telco subscriber interface (see diagram). Wiring in series lets the CCS "see" trunk activity in terms of current, rather than just in terms of voltage. The circuitry involved is simpler, more reliable, and far less expensive than any voltage-based system could be.

Where trunks are supplied via T1, it's usually a simple matter to wire the CCS upstream of the equipment that converts T1 to analog lines, prior to feeding into an analog PBX.

The remainder of installation is very simple. Hook up the supplied power supplies. Set DIP switches on the cards to number them in series (1 through 8). Run a 25-pin serial cable from your PBX's "SMDR out" port to the "data in" port of the head card of your CCS box or daisy-chain, and run a similar cable from the "data out" port of the last card (of the same card, in a one-card, eight-trunk, minimal system) to your call-accounting computer. That's all the system requires for normal operation.

Configuration and monitoring is accomplished by linking a computer (supplied with INS software) to the modem port on the head card, via a null-modem cable. Alternatively, a standard modem (connected to a free station line) can be attached to this port for remote configuration, diagnosis, and monitoring. Because cards communicate with one another in a pseudo-network (via the RS-232 daisy-chain cables that connect them), both single and multi-card installations can be managed via this single modem connection.

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In use, CCS is transparent to existing PBX and call accounting hardware and software. When a can is completed that lasts for less than the default time formerly used to qualify for billing, CCS intercepts and adjusts the duration shown in the SMDR record generated by the PBX. In an emergency, CCS will shut itself out of the circuit and pass SMDR records directly to call accounting. So even in the case of unit failure, billing win not be disrupted.

Configuration of cards in the CCS system is accomplished from a DOS-based PC or laptop, using CCS.EXE software. The program lets you turn the system on and off (initating bypass), set up data protocols, retrieve **statistics** , and monitor **realtime** operation.

A key step in installation involves downloading to the CCS a template reflecting the structure of SMDR call-records employed by the switch. More than 35 PBX SMDR record-format templates are provided with the current revision of the software, and more are added periodically. Installers are encouraged to determine record format as part of their pre-installation site-survey. INS provides a specialized communications program (SMDR.EXE) to facilitate record-capture, and the company is prepared to build downloadable templates for records not already in their library.

Beyond this, configuration can involve adjusting baud rate and parity

on the SMDR connection, tweaking values used in testing ring cadences and
SIT tones, etc. A list of administrative extensions can be downloaded,
letting CCS prevent management calls from showing up in guest call
statistics. An optional, onboard database-driven toll restriction function
supplements restrictions currently provided by the PBX. This feature can
limit or eliminate the need to upgrade a PBX to comply with the new North
American Numbering Plan (NANP).

The CCS software package lets you monitor the performance of the
device in realtime. We tested the system using a standard telephone and
outside line, and watched with pleasure as call-progress details were
reported. Particularly impressive is CCS' ability to detect in-band
signaling through competing noise on the line: the system picks up quiet
tones, even when you're talking into the mouthpiece at high volume.
According to INS, a "Wheatstone Bridge" circuit is used to attenuate
speech-band noise in favor of network signals, by a factor of three-to-one.

Statistical reports, which may be shown on-screen or printed, let you
monitor CCS' performance, trunk by trunk. The detailed reports can be
useful not only in debugging the device and proving that it's working, but
in high-reliability **monitoring** of line **activity** and **user** behavior -
information that can be useful in evaluating long distance carriers, and in
deciding other policy matters. A general report, summarizing CCS
performance, is also available. This report is formatted to demonstrate
precisely what effect CCS is having on your bottom line.

INS claims that the CCS correctly marks call completion 90% of the
time on local and 1+ domestic long distance calls (less on international).
CCS failure is most often due to the presence of non-standard SIT tones
(SIT tones are sometimes distorted as a function of their being recorded on
degradable magnetic tape), and to the use of speakerphones (not generally a
problem in hotel rooms), some of which distort signals. INS notes that when
failures occur, they tend to cluster together. Problem clusters often show
up as the result of a single user making a series of calls to a particular
location, to which the network connection is faulty or non-standard.

Having seen the device in operation, we're convinced that the
company's reliability data is conservative: you'll probably do better than
90%, unless a large amount of your international phone traffic is directed
to non-European destinations. The cost of the system (about $99 per trunk,
prior to installation) is extremely moderate compared to the amount of
revenue it can help generate. INS dealers have, in the past, installed
systems with an agreement to bill for them only as monies are generated,
and their experience has been that CCS units pay for themselves in three to
six months of use. 214-640-4180.

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SPECIAL FEATURES: illustration; photograph; chart
COMPANY NAMES: Intelligent Network Systems--Products
DESCRIPTORS: Top Rating; Evaluation; Call Accounting; Telephone
  Management Device
TRADE NAMES: Intelligent Network Systems Call Confirmation System
  (Telephone management device)--Evaluation; Intersep 2.5 (Image processing
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DIALOG(R)File 275:Gale Group Computer DB(TM)
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Beyond this, configuration can involve adjusting baud rate and parity on the SMDR connection, tweaking values used in testing ring cadences and SIT tones, etc. A list of administrative extensions can be downloaded, letting CCS prevent management calls from showing up in guest call statistics. An optional, onboard database-driven toll restriction function supplements restrictions currently provided by the PBX. This feature can limit or eliminate the need to upgrade a PBX to comply with the new North American Numbering Plan (NANP).

The CCS software package lets you monitor the performance of the device in realtime. We tested the system using a standard telephone and outside line, and watched with pleasure as call-progress details were reported. Particularly impressive is CCS' ability to detect in-band signaling through competing noise on the line: the system picks up quiet tones, even when you're talking into the mouthpiece at high volume. According to INS, a "Wheatstone Bridge" circuit is used to attenuate speech-band noise in favor of network signals, by a factor of three-to-one.

Statistical reports, which may be shown on-screen or printed, let you monitor CCS' performance, trunk by trunk. The detailed reports can be useful not only in debugging the device and proving that it's working, but in high-reliability monitoring of line activity and user behavior - information that can be useful in evaluating long distance carriers, and in deciding other policy matters. A general report, summarizing CCS performance, is also available. This report is formatted to demonstrate precisely what effect CCS is having on your bottom line.

INS claims that the CCS correctly marks call completion 90% of the time on local and 1+ domestic long distance calls (less on international). CCS failure is most often due to the presence of non-standard SIT tones (SIT tones are sometimes distorted as a function of their being recorded on degradable magnetic tape), and to the use of speakerphones (not generally a problem in hotel rooms), some of which distort signals. INS notes that when failures occur, they tend to cluster together. Problem clusters often show up as the result of a single user making a series of calls to a particular location, to which the network connection is faulty or non-standard.

Having seen the device in operation, we're convinced that the company's reliability data is conservative: you'll probably do better than 90%, unless a large amount of your international phone traffic is directed to non-European destinations. The cost of the system (about $99 per trunk, prior to installation) is extremely moderate compared to the amount of revenue it can help generate. INS dealers have, in the past, installed systems with an agreement to bill for them only as monies are generated, and their experience has been that CCS units pay for themselves in three to six months of use. 214-640-4180.

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COMPANY NAMES: Intelligent Network Systems--Products
DESCRIPTORS: Top Rating; Evaluation; Call Accounting; Telephone Management Device
TRADE NAMES: Intelligent Network Systems Call Confirmation System (Telephone management device)--Evaluation; Intersep 2.5 (Image processing
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